

## **APPENDIX F**

### **NORTHSIDE TIMBER SALE and ASSOCIATED ACTIVITIES**

### **ECONOMIC ASSUMPTIONS and FINANCIAL EFFICIENCY ANALYSIS**

## ECONOMIC ASSUMPTIONS

### Northside Environmental Assessment Compartments 53, 55 and 56

#### PURPOSE

The purpose of the financial efficiency analysis is to present the estimated costs and revenues of the alternatives considered in the Environmental Analysis for the Proposed Northside Timber Sale and Associated Activities, Appalachian Ranger District, Pisgah National Forest.

#### ASSUMPTIONS

For the purpose of this analysis, the following assumptions will apply:

1. Discount Rate is 4%.
2. Inflation rate is 0% throughout the analysis period (60 years plus).
3. Estimated timber revenues were calculated using the base prices from the Pisgah and Nantahala National Forests 3<sup>rd</sup> Quarter Adjustment Sheet for Fiscal Year 2001 (Base Period 3/1999 – 2/2001) issued out of the Forest Supervisor's office in Asheville, North Carolina.
4. Sale preparation costs and timber harvest administration costs were obtained from budget figures for the National Forests in North Carolina. Sale preparation costs are approximately \$7.15/CCF and timber harvest administration costs are approximately \$3.30/CCF.
5. Analysis and Documentation costs were based on the number of days spent by the Interdisciplinary Team Leader/NEPA writer, Silviculturalist, and Prescriptionist on this project multiplied by an average daily rate of \$275/day.
6. Resource support costs were based on the number of days spent by the various resource professionals multiplied by an average daily rate of \$250/day.
7. Reforestation and silvicultural treatment costs were taken from averages of actual contract costs on the Appalachian Ranger District plus an additional 25% to cover district preparation and administration costs. Manual site preparation and grape vine control were estimated at \$125/acre, herbicide site preparation and grape vine control at \$175/acre, and Prescribed burning was estimated at \$50/acre.
8. There are no other KV costs associated with this project other than reforestation.

9. A 60-year long-term projection was used for comparison basis only. Many of these stands will be carried for a longer rotation period.

#### LIMITATIONS OF ANALYSIS

Any financial analysis must draw limitations on the amount of data to be included or the entire process would quickly become a mix of different alternatives and expected yields or losses. For instance, inflation rate is assumed to be 0% over the entire analysis period; a situation rarely encountered in the real world. The differences between the economic values of the alternatives remain the same, regardless of the inflation rate, so constant dollars were used for comparisons between alternatives.

## FINANCIAL ANALYSIS WORKSHEET

### ALTERNATIVE 2

Sale Name:	Northside	Analyst:	Compton
Treatment Year:	2002	Date:	2/05/2002

### SALE REVENUE ESTIMATES

Species Product+	Volume (CCF)	Adjusted BPP*	Revenue
White Pine ST	271.5	\$76.22	\$20,694
No. Red Oak ST	51.4	\$160.82	\$8,266
Black Cherry ST	8.4	\$72.02	\$605
White Oak/Ash ST	36.5	\$55.13	\$2,012
Yellow Poplar ST	850.5	\$57.40	\$48,819
Mixed Hardwood ST	36.5	\$40.04	\$1,461
White Pine RW	14.5	\$8.00	\$116
Hardwood RW	177.5	\$3.01	\$534
<b>TOTAL</b>	<b>1,447</b>		<b>\$82,507</b>

+ ST = Saw Timber, RW = Roundwood or Pulpwood

\*BPP = Based Period Price

### SALE COST ESTIMATES

Activity	Units	Number	Cost/Unit	Total Cost
Sale Preparation	CCF	1,447	\$7.15	\$10,346
Harvest Administration	CCF	1,447	\$3.30	\$4,775
Analysis and Documentation	Days	75	\$275	\$20,625
Other Resource Support	Days	80	\$250	\$20,000
Reforestation/Silviculture+	Acres	63	\$125	\$7,875
Road Design & Engineering	Miles	0	N/A	\$0
KV Other	Acres	0	N/A	\$0
<b>TOTAL</b>				<b>\$63,621</b>

+ Manual Site Preparation and Grape Vine Control

There are no road construction or road reconstruction costs associated with this alternative.

Year	Discount Factor	Revenue	Cost	PNV*	BCR+
0	0	\$82,507	\$63,621	\$18,886	1.30
60	0.095	\$82,507	\$63,621	\$1,794	1.30

\*Net Present Value, +Benefit Cost Ratio

## FINANCIAL ANALYSIS WORKSHEET

### ALTERNATIVE 3

Sale Name:	Northside	Analyst:	Compton
Treatment Year:	2002	Date:	2/05/2002

### SALE REVENUE ESTIMATES

Species Product+	Volume (CCF)	Adjusted BPP*	Revenue
White Pine ST	215.1	\$76.22	\$16,395
No. Red Oak ST	40.6	\$160.82	\$6,529
Black Cherry ST	5.5	\$72.02	\$396
White Oak/Ash ST	28.2	\$55.13	\$1,555
Yellow Poplar ST	642.4	\$57.40	\$36,874
Mixed Hardwood ST	27.9	\$40.04	\$1,117
White Pine RW	11.3	\$8.00	\$90
Hardwood RW	136.3	\$3.01	\$410
<b>TOTAL</b>	<b>1,107</b>		<b>\$63,366</b>

+ ST = Saw Timber, RW = Roundwood or Pulpwood

\*BPP = Based Period Price

### SALE COST ESTIMATES

Activity	Units	Number	Cost/Unit	Total Cost
Sale Preparation	CCF	1,107	\$7.15	\$7,915
Harvest Administration	CCF	1,107	\$3.30	\$3,653
Analysis and Documentation	Days	75	\$275	\$20,625
Other Resource Support	Days	80	\$250	\$20,000
Reforestation/Silviculture+	Acres	53	\$125	\$6,625
Prescribed Burning	Acres	35	\$50	\$1,750
Road Design & Engineering	Miles	0	N/A	\$0
KV Other	Acres	0	N/A	\$0
<b>TOTAL</b>				<b>\$60,568</b>

+ Manual Site Preparation and GrapeVine Control

There are no road construction or road reconstruction costs associated with this alternative.

Year	Discount Factor	Revenue	Cost	PNV*	BCR+
0	0	\$63,366	\$60,568	\$2,798	1.05
60	0.095	\$63,366	\$60,568	\$266	1.05

\*Net Present Value, +Benefit Cost Ratio

## FINANCIAL ANALYSIS WORKSHEET

### ALTERNATIVE 4

Sale Name:	Northside	Analyst:	Compton
Treatment Year:	2002	Date:	2/05/2002

### SALE REVENUE ESTIMATES

Species Product+	Volume (CCF)	Adjusted BPP*	Revenue
White Pine ST	215.1	\$76.22	\$16,395
No. Red Oak ST	40.6	\$160.82	\$6,529
Black Cherry ST	5.5	\$72.02	\$396
White Oak/Ash ST	28.2	\$55.13	\$1,555
Yellow Poplar ST	642.4	\$57.40	\$36,874
Mixed Hardwood ST	27.9	\$40.04	\$1,117
White Pine RW	11.3	\$8.00	\$90
Hardwood RW	136.3	\$3.01	\$410
<b>TOTAL</b>	<b>1,107</b>		<b>\$63,366</b>

+ ST = Saw Timber, RW = Roundwood or Pulpwood

\*BPP = Based Period Price

### SALE COST ESTIMATES

Activity	Units	Number	Cost/Unit	Total Cost
Sale Preparation	CCF	1,107	\$7.15	\$7,915
Harvest Administration	CCF	1,107	\$3.30	\$3,653
Analysis and Documentation	Days	75	\$275	\$20,625
Other Resource Support	Days	80	\$250	\$20,000
Reforestation/Silviculture+	Acres	53	\$175	\$9,275
Prescribed Burning	Acres	35	\$50	\$1,750
Road Design & Engineering	Miles	0	N/A	\$0
KV Other	Acres	0	N/A	\$0
<b>TOTAL</b>				<b>\$63,218</b>

+ Herbicide Site Preparation and GrapeVine Control

There are no road construction or road reconstruction costs associated with this alternative.

Year	Discount Factor	Revenue	Cost	PNV*	BCR+
0	0	\$63,366	\$63,218	\$148	1.00
60	0.095	\$63,366	\$63,218	\$14	1.00

\*Net Present Value, +Benefit Cost Ratio